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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/764,307

01/19/2004

Chih Hao Yiu

14787 B (4219JE)

8262

7590

10/11/2006

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EXAMINER

BERTHEAUD, PETER JOHN

ART UNIT

PAPER NUMBER

3746

DATE MAILED: 10/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/764,307

Applicant(s)

YIU ET AL.

Examiner

Peter J. Bertheaud

Art Unit

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 1 is objected to because of the following informalities: In line 7 the term "rsistor" should be "resistor". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 2 and 3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In line 2 of claim2, the phrase "resistor is coupled in front of motor" is unclear. This is due to the fact that it cannot be determined whether "in front of motor" means, placed in front of the motor so as to send the signal to the motor, or placed in front of the motor as to receiving the signal from the motor. Claim 3 is rejected for the same reason in reference to the term "behind". Terms such as "before" or "after" would be better suited for these claims

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 2, 5, 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Batchelder (U.S. Patent No. 6,390,780).

Batchelder discloses all the limitations as claimed including the following: a liquid pumping system comprising: a reservoir for receiving water (see col. 1, lines 11-14), a motor (12) coupled to said reservoir to pump the water out of said reservoir, a resistor (104) coupled to said motor, a comparator circuit (98) coupled to said resistor, said resistor being provided to generate a voltage signal and to send the voltage signal to said comparator circuit, to determine whether said motor is loaded or unloaded (see col. 8, lines 51-55), a power supply circuit coupled to said motor (90), to supply electric energy to energize said motor, said power supply circuit and said motor and said resistor being coupled together in series, and a control device (100) coupled to said comparator circuit, to switch off said power supply circuit in order to turn off said motor when said motor is unloaded (see col. 9, lines 20-27). Batchelder also discloses that the resistor is coupled in front of said motor (Fig. 11). Batchelder further discloses that the power supply circuit is provided to couple said motor to a DC power (see col. 6, lines 49-52), and that the power supply circuit includes two transistors (106 and 92) and a second resistor (91) coupled between said transistors.

Thus the reference reads on the claims.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Batchelder (U.S. Patent No. 6,390,780) as applied above, in view of Heckman (U.S. Patent No. 5,078,577).

Batchelder, as applied above, discloses all the limitations substantially as claimed except for having comparator circuit including a first amplifier coupled to said resistor to receive the voltage signal from said resistor, and a second amplifier coupled between said first amplifier and said control device, and wherein the resistor is coupled behind said motor.

Heckman teaches an automatic bilge pump (60) including, a comparator circuit (40), a resistor (38) that helps to produce an output voltage, and a transistor (52). Heckman further discloses that the comparator circuit (40) includes a first amplifier (42) coupled to said resistor (38) to receive the voltage signal from said resistor, and a second amplifier (44) coupled between said first amplifier and said control device (18). Heckman also teaches that the resistor (38) is coupled behind said motor (60) (see Fig. 2). Heckman teaches that this would be advantageous because having two amps allows one to be used for receiving and integrating the signal from the resistor, while the other is used to trigger a change in the power supply circuit.

Therefore, it would have been obvious to one skilled in the art at the time of invention to modify the pump circuitry of Batchelder by implementing a second amp in between a first amp and a control device, as taught by Heckman, in order to allow one to be used only for receiving and integrating the signal from the resistor, while the other

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can solely be used to trigger a change in the power supply circuit (see col. 4, lines 51-64).

8. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Batchelder (U.S. Patent No. 6,390,780) as applied above, in view of Atkins (U.S. Patent No. 4,600,844).

Batchelder, as applied above, discloses all the limitations substantially as claimed except for having the power supply circuit provided to couple said motor to an AC power, wherein said power supply circuit includes a TRIAC coupled to the AC power.

Atkins teaches a liquid level control apparatus including, a tank (60), a probes (10,12) used to sense when the water level is too low or too high, and a comparator (20). Atkins further discloses that the power supply circuit is provided to couple said motor (51) to an AC power (see col. 3, lines 56-61), wherein said power supply circuit includes a TRIAC (50) coupled to the AC power. Atkins teaches that this would be advantageous because a TRIAC allows the control of very large power flows..

Therefore, it would have been obvious to one skilled in the art at the time of invention to modify the pump circuitry of Batchelder by coupling the pump motor to AC power, as well as a TRIAC, as taught by Atkins, in order to allow for the control of very large power flows (see col. 3, lines 56-61).

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. These references are noted in the attached form 892.


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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J. Bertheaud whose telephone number is (571) 272-3476. The examiner can normally be reached on M-F 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Stashick can be reached on (571) 272-4561. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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EHUD GARTENBERG  
SUPERVISORY PATENT EXAMINER